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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



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(54) Title: METHODS AND COMPOUNDS FOR MODULATING NUCLEAR RECEPTOR ACTIVITY

(57) Abstract: The present invention relates to methods and agonist/antagonist compounds for modulating nuclear receptor activity, and nuclear receptor ligand binding. The invention includes a method for identifying residues comprising a ligand binding domain for a nuclear receptor of interest. Also included in a method of identifying agonists and/or antagonists that bind to the ligand binding domain of the nuclear receptors, and the estrogen receptor in particular. The invention is exemplified by identification and manipulation of the ligand binding domain of the estrogen receptor and compounds that bind to this site. The methods can be applied to other nuclear receptors including TR, GR and PR.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/06937

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 G01N33/48

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 97 21993 A (UNIV CALIFORNIA) 19 June 1997 (1997-06-19) page 1, line 11 - page 3 page 6, line 25 - page 11, line 7 ---	1
A	WO 92 00091 A (BIOLIGAND INC) 9 January 1992 (1992-01-09) abstract ---	1
A	WO 93 06121 A (AFFYMAX TECH NV) 1 April 1993 (1993-04-01) ---	1
A	EP 0 639 584 A (INTERPHARM LAB LTD) 22 February 1995 (1995-02-22) ---	1
A	WO 94 28028 A (SELECTIDE CORP) 8 December 1994 (1994-12-08) -----	1

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *B* document member of the same patent family

Date of the actual completion of the international search

20 August 1999

Date of mailing of the international search report

06.09.99

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US 99/ 06937

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely

2. ☒ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically
see Further Information sheet PCT/ISA/210

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims, it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 2-71

In view of the large number and also the wording of the claims render it difficult, if not impossible, to determine the matter for which protection is sought. The present application fails to comply with the clarity and conciseness according to Article 6 PCT (see also Rule 6.1(a)PCT).

Furthermore, the application does not appear to fulfill the requirements of Rule 13 PCT, since it relates to different subject matters:

A) Claims 1, 14 : A method of identifying a compound....

Claim 24: A method for identifying an agonist...

Claim 67: A method of modulating nuclear receptor activity...

B) Claim 40: A machine-readable data storage medium...

Claim 52: A computational method....

Claims 29 and 67 are directed to a method for treatment practised on the human/animal body by surgery (Rule 39.1(iv)).

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 99/06937

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